

**REMARKS**

This is in full and timely response to the Final Office Action dated February 2, 2011.

Support for the claims may be found variously throughout the specification. *No new matter has been added.*

Reexamination in light of the following remarks is respectfully requested.

**Claim rejections**

**i. Page 21 of the Office Action includes a rejection of claims 1 and 4 under 35 U.S.C. §103 as allegedly being unpatentable over Japanese Application No. 08-167039 (Kobari) in further view of U.S. Patent No. 6,868,524 (Fushiki) and U.S. Patent Application Publication No. 2004/0001628 (Ozawa), U.S. Patent No. 5,724,072 (Freeman), “*Positioning Names on Maps*” (Imhof), and “*A General Cartographic Labeling Algorithm*” (Edmondson).**

**A. Claim 1 has claim 4 dependent thereon.**

Claim 1 is drawn to an apparatus for optimizing character string placing, comprising:

means for drawing prospective guide lines as virtual horizontal lines arranged in parallel at equal intervals within a demarcated region so that multiple candidate positions of placing a character string can be formed in parallel within the demarcated region at the equal intervals by the prospective guide lines, each of the prospective guide lines having a length defined by opposite lines among lines that form the demarcated region;

means for selecting, from among the prospective guide lines formed within the demarcated region, specific prospective guide lines that are arranged in parallel and are longer than a longest horizontal segment of an area of the character string;

means for specifying one of the specific prospective guide lines that is located at the center of an arrangement of the specific guide lines arranged in parallel in a vertical direction;

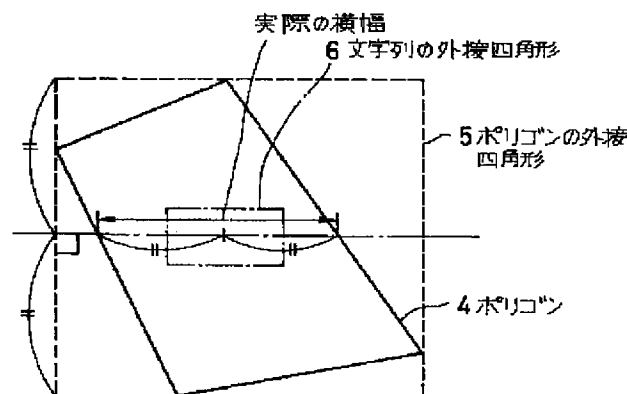
means for placing the character string along said one of the specific prospective guide lines; and

means for centering placement to arrange the placed character string in such a manner that the distances between the demarcated region segments that demarcate the demarcated region and dots on character string region segments that demarcate the character string region are made uniform.

#### B. Japanese Application No. 08-167039 (Kobari).

Figure 3 of Kobari is provided hereinbelow.

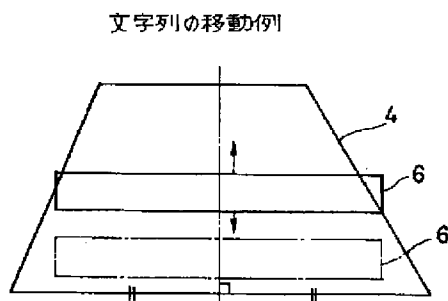
文字列の傾きを水平にするかどうかの判別例



The machine translation of Kobari in paragraph [0015] arguably discloses that:

[0015]Next, as shown in drawing 3, inclination of a character string is determined about each polygon. As for 4, in drawing 3, a polygon circumscribed quadrangle and 6 are character string existence quadrangles a polygon and 5. Determination of inclination is performed as follows.

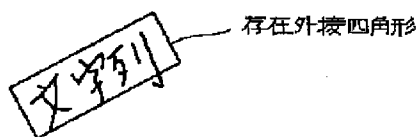
Figure 5 of Kobari is provided hereinbelow.



The machine translation of Kobari in paragraph [0026] arguably discloses that:

[0026](7d) As shown in drawing 5, when the circumscribed quadrangle 6 of a character string is not included by the polygon 4, move a character string on a vertical bisector and rearrange in the position included by the polygon 4.

Figure 6 of Kobari is provided hereinbelow.



The machine translation of Kobari in paragraph [0002] arguably discloses that drawing 6 is an example of the un-full inclusion to which a character string's existence circumscribed quadrangle does not correspond to a polygon.

**1. Kobari fails to disclose, teach, or suggest means for drawing prospective guide lines in the manner claimed.**

Figure 3 of Kobari fails to depict the presence of multiple prospective guide lines within a demarcated region.

Arguably, three horizontal lines are depicted within Figure 3 of Kobari.

However, only one of the center line has a length defined by the polygon 4, and the two remaining lines are not defined by the polygon 4.

As a consequence, Kobari teaches only one candidate position of placing a character string.

In this regard, Figure 3 of Kobari appears to depict only one guide line.

But even if Kobari discloses prospective guide lines, Kobari fails to depict multiple prospective guide lines arranged in parallel at equal intervals.

Thus, Kobari fails to disclose, teach, or suggest means for drawing prospective guide lines as virtual horizontal lines arranged in parallel at equal intervals within a demarcated region so that multiple candidate positions of placing a character string can be formed in parallel within the demarcated region at the equal intervals by the prospective guide lines, each of the prospective guide lines having a length defined by opposite lines among lines that form the demarcated region.

**2. Kobari fails to disclose, teach, or suggest means for selecting specific prospective guide lines from among prospective guide lines.**

Figure 3 of Kobari appears to depict only one guide line.

As a consequence, Kobai teaches only one candidate position by the center horizontal line in Figure 3 and fails to teach the concept of selecting, from among the prospective guide lines formed within the demarcated region, specific prospective guide lines.

Figure 5 of Kobari shows two rectangles 6 for a character line.

However, the two rectangles are not defined by opposite sides of the polygon 4 and are quite different from the prospective guide lines.

Figure 5 of Kobari merely movement of the rectangle 6 and has no relation to means for selecting, from among the prospective guide lines formed within the demarcated region, specific prospective guide lines that are arranged in parallel and are longer than a longest horizontal segment of an area of the character string.

As a result, selecting specific prospective guide lines from among prospective guide lines is absent from within Kobari.

Thus, Kobari fails to disclose, teach, or suggest means for selecting, from among the prospective guide lines formed within the demarcated region, specific prospective guide lines that are arranged in parallel and are longer than a longest horizontal segment of an area of the character string.

**3. Kobari fails to disclose, teach, or suggest means for specifying one of the specific prospective guide lines.**

Figure 3 of Kobari appears to depict only one guide line.

Likewise, Figure 5 of Kobari fails to teach or suggest the specific guide lines each having a length defined by opposite lines among lines that form the demarcated region. Here, the rectangles 6 of Kobari are circumscribed rectangles of a character string.

As a consequence, specifying one of the specific prospective guide lines is absent from within Kobari.

Thus, Kobari fails to disclose, teach, or suggest means for specifying one of the specific prospective guide lines that is located at the center of an arrangement of the specific guide lines arranged in parallel in a vertical direction.

**4. Kobari fails to disclose, teach, or suggest means for centering placement.**

The machine translation of Kobari in paragraph [0018] arguably discloses that:

[0018](4b) the middle point of the circumscribed quadrangle 6 of a character string -- the intersection of the middle point of the lengthwise direction of the circumscribed quadrangle 5 of a polygon, and the middle point of the actual breadth of the character string circumscribed

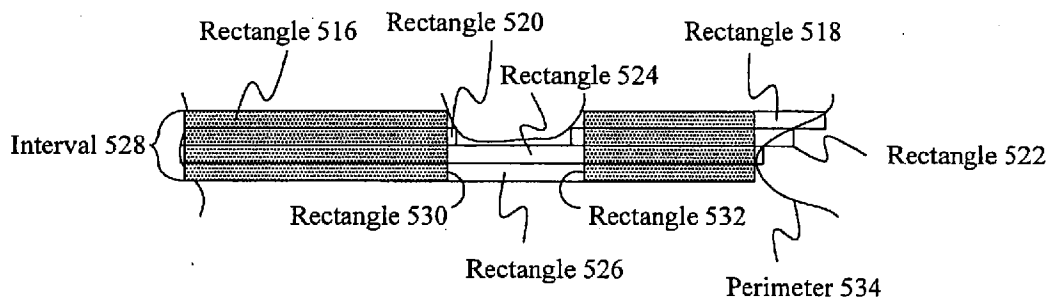
However, Kobari is silent as to the presence of means for centering placement of the placed character string.

Thus, Kobari fails to disclose, teach, or suggest means for centering placement to arrange the placed character string in such a manner that the distances between the demarcated

region segments that demarcate the demarcated region and dots on character string region segments that demarcate the character string region are made uniform.

**C. U.S. Patent No. 6,868,524 (Fushiki).**

Figure 6 of Fushiki is provided hereinbelow.



**FIG. 6**

Fushiki arguably discloses the following in the paragraph beginning at column 6, line 3:

FIG. 6 shows two resulting rectangles 530 and 532 (shaded) from such an AND operation performed on rectangles 516, 518, 520, 522, 524, and 526 over interval 528. Shaded rectangles 530 and 532 represent text boxes for one text line into which text may be written within the region. Because the rectangles that were used to form text boxes 530 and 532 are shorter than the text boxes themselves, there is less chance that the text boxes will extend beyond the perimeter of the region. This can be seen from FIG. 6 by comparing text boxes 530 and 532 to rectangles 516 and 518. If the scaling factor used to scale the region did not include the granularity factor  $n$ , the text boxes would have the same width as rectangles 516 and 518 and a height equal to interval 528. Note that extending the far right side of rectangle 518 to the bottom of interval 528 would create a text box that extends outside of perimeter 534

of FIG. 6. This could cause text placed within this text box to intersect perimeter 534, obscuring the text and the perimeter. However, with the present invention, text box 532 does not extend outside of perimeter 534 thereby reducing the chances of such interference between the perimeter and the text.

Figure 6 of Fushiki arguably show shaded rectangles 530 and 532 that represent text boxes for one text line.

The rectangle 530 consists of four rectangles vertically arranged, and the rectangle 532 consists of four rectangles vertically arranged.

Nevertheless, Fushiki fails to one of the four rectangles that is located at the center of the arrangement of the four guide lines arranged in parallel in the vertical direction.

Furthermore, page 25 of the Office Action readily admits that Fushiki does not expressly disclose placing the label in the center.

**D. U.S. Patent Application Publication No. 2004/0001628 (Ozawa), U.S. Patent No. 5,724,072 (Freeman), “Positioning Names on Maps” (Imhof), and “A General Cartographic Labeling Algorithm” (Edmondson).**

The Office Action fails to show Ozawa, Freeman, Imhof, and Edmondson as accounting for the features that are absent from within Kobari and Fushiki.



ii. Page 26 of the Office Action includes a rejection of claims 6-7 under 35 U.S.C. §103 as allegedly being unpatentable over Japanese Application No. 08-167039 (Kobari) in further view of U.S. Patent No. 6,868,524 (Fushiki), U.S. Patent No. 5,724,072 (Freeman), "*Positioning Names on Maps*" (Imhof), and "*A General Cartographic Labeling Algorithm*" (Edmondson).

**A. Claim 6 has claim 7 dependent thereon.**

Claim 6 is drawn to a computer program product embodied in a tangible non-transitory computer readable medium, the computer program product being configured to optimize character string placement by performing operations comprising:

a first horizontal placement or a first tilting placement on all demarcated regions;

a pull-out placement on each demarcated region in which the first horizontal placement or the first tilting placement cannot be performed, assuming that the character string placed in the first horizontal placement or the first tilting placement has not been placed;

a second horizontal placement or a second tilting placement to place the character string placed in the first horizontal placement or the first tilting placement, and, when the placement cannot be performed because of the character string placed through the pull-out placement, nullifying the character string placed through the pull-out placement hindering the placement, thereby placing the character string through the second horizontal placement or the second tilting placement; and

a centering placement to arrange the already placed character string in such a manner that the distances between demarcated region segments that demarcate the demarcated region and dots on character string region segments that demarcates the character string region are made uniform, after the first horizontal placement or the first tilting placement.

**B. Each and every claimed feature cannot be found within the combination of Japanese Application No. 08-167039 (Kobari) in further view of U.S. Patent No. 6,868,524 (Fushiki), U.S. Patent No. 5,724,072 (Freeman), “*Positioning Names on Maps*” (Imhof), and “*A General Cartographic Labeling Algorithm*” (Edmondson).**

**1. First horizontal placement or first tilting placement.**

As shown hereinabove, first horizontal placement or first tilting placement is absent from the combination of references.

**2. Pull-out placement.**

Paragraph [0021] of Kobari arguably discloses that: (6) When inclination is obtained with the deciding method (4) of inclination, it arranges in the position arranged in the case of a judgment.

In this regard, paragraph [0021] of Kobari fails to disclose, teach, or suggest an absence of an inclination.

Thus, Kobari fails to disclose, teach, or suggest pull-out placement on each demarcated region in which the first horizontal placement or the first tilting placement cannot be performed, assuming that the character string placed in the first horizontal placement or the first tilting placement has not been placed.

### **3. Second horizontal placement or second tilting placement.**

The references are silent as to the presence of either a second horizontal placement or a second tilting placement is absent from the combination of references.

Thus, Kobari fails to disclose, teach, or suggest second horizontal placement or a second tilting placement to place the character string placed in the first horizontal placement or the first tilting placement, and, when the placement cannot be performed because of the character string placed through the pull-out placement, nullifying the character string placed through the pull-out placement hindering the placement, thereby placing the character string through the second horizontal placement or the second tilting placement.

### **4. Centering placement to arrange the already placed character string in such a manner that the distances between demarcated region segments that demarcate the demarcated region and dots on character string region segments that demarcates the character string region are made uniform, after the first horizontal placement or the first tilting placement.**

As shown hereinabove, centering placement is absent from the combination of references.

Thus, Kobari fails to disclose, teach, or suggest centering placement to arrange the already placed character string in such a manner that the distances between demarcated region segments that demarcate the demarcated region and dots on character string region segments that demarcates the character string region are made uniform, after the first horizontal placement or the first tilting placement.

iii. Page 38 of the Office Action includes a rejection of claims 8-9 under 35 U.S.C. §103 as allegedly being unpatentable over Japanese Application No. 08-167039 (Kobari) in further view of U.S. Patent No. 6,868,524 (Fushiki), U.S. Patent No. 5,724,072 (Freeman), "*Positioning Names on Maps*" (Imhof), "*A General Cartographic Labeling Algorithm*" (Edmondson), and Japanese Application No. 09-18569 (Yoshimura).

**A. Claim 8 has claim 9 dependent thereon.**

Claim 8 is drawn to the computer program product of claim 6, wherein the operations further comprise:

a replacing placement, after the second horizontal placement or the second tilting placement, to place alternative display objects such as characters, other character strings, symbols, or graphics, instead of the character string that cannot be placed in the first horizontal placement or the first tilting placement, the pull-out placement, or second horizontal placement or the second tilting placement.

**B. Each and every claimed feature cannot be found within the combination of Japanese Application No. 08-167039 (Kobari) in further view of U.S. Patent No. 6,868,524 (Fushiki), U.S. Patent No. 5,724,072 (Freeman), "*Positioning Names on Maps*" (Imhof), "*A General Cartographic Labeling Algorithm*" (Edmondson), and Japanese Application No. 09-18569 (Yoshimura).**

The combination of references fails to disclose, teach or suggest the presence of a replacing placement, as claimed.

**Newly added claims**

**iv. Claim 11 has claims 12-26 dependent thereon.**

Claim 11 is drawn to a computer program product embodied in a tangible non-transitory computer-readable medium, the computer program product being configured to control a horizontal placement, the horizontal placement including the steps of:

locating imaginary guide lines in one of the demarcated regions, said one of the demarcated regions being bounded by demarcated region segments;

aligning an area in a character string region to a reference line of the imaginary guide lines, said area being positioned within said one of the demarcated regions,

wherein said reference line of the imaginary guide lines is between adjacent ones of the imaginary guide lines, each of the imaginary guide lines in said one of the demarcated regions being longer than said area.

Either individually or as a whole, the references applied in the rejection of the claims **fail** to disclose, teach, or suggest a reference line of the imaginary guide lines being between adjacent ones of the imaginary guide lines, wherein each of the imaginary guide lines in one of the demarcated regions is longer than the an area in a character string region.

**Official Notice, if any**

There is no concession as to the veracity of Official Notice, if taken in any Office Action.

An affidavit or document should be provided in support of any Official Notice taken. 37 C.F.R. §1.104(d)(2), M.P.E.P. §2144.03. See also, *Ex parte Natale*, 11 USPQ2d 1222, 1227-1228

(Bd. Pat. App. & Int. 1989)(failure to provide any objective evidence to support the challenged use of Official Notice constitutes clear and reversible error).

**Conclusion**

This response is believed to be a complete response to the Office Action.

Applicants reserve the right to set forth further arguments supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers.

For the foregoing reasons, all the claims now pending in the present application are allowable, and the present application is in condition for allowance.

Accordingly, favorable reexamination and reconsideration of the application in light of the remarks is courteously solicited.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone Brian K. Dutton, Reg. No. 47,255, at 202-955-8753.

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Respectfully submitted,

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